

What is claimed is:

1        1. A mobile electronic apparatus which is able  
2 to be carried by an authorized user for performing  
3 various electronic information processes, comprising:  
4            a main body;

5            an attachment part detachably attached to the main  
6 body for performing a predetermined function when  
7 attached to said main body, said attachment part having  
8 an input/output section integrally formed with said  
9 attachment part for inputting/outputting information  
10 (data); and

11          an interface section for transferring  
12 input/output signals relating to the last-named  
13 information (data) between said main body and the  
14 attachment part.

1        2. A mobile electronic apparatus according to  
2 claim 1, wherein said interface section is an optical  
3 communications section which receives/transmits  
4 optical signals as the input/output signals.

1        3. A mobile electronic apparatus according to  
2 claim 1, wherein said interface section is a radio  
3 communications section which receives/transmits radio  
4 signals as the input/output signals.

1       4. A mobile electronic apparatus according to  
2 claim 1, wherein said interface section is a connector  
3 or an electrical contact, adapted to be connected  
4 between said attachment part and said main body, for  
5 receiving/transmitting the input/output signals.

1       5. A mobile electronic apparatus according to  
2 claim 1, wherein said interface section is a cable,  
3 adapted to be connected between said attachment part  
4 and a connector terminal of said main body, for  
5 receiving/transmitting the input/output signals.

1       6. A mobile electronic apparatus according to  
2 claim 1, wherein said input/output section has a  
3 keyboard.

1       7. A mobile electronic apparatus according to  
2 claim 2, wherein said input/output section has a  
3 keyboard.

1       8. A mobile electronic apparatus according to  
2 claim 3, wherein said input/output section has a  
3 keyboard.

1       9. A mobile electronic apparatus according to  
2 claim 4, wherein said input/output section has a  
3 keyboard.

1           10. A mobile electronic apparatus according to  
2 claim 5, wherein said input/output section has a  
3 keyboard.

1           11. A mobile electronic apparatus which is able  
2 to be carried by an authorized user for performing  
3 various electronic information processes, comprising:  
4           a main body;  
5           a battery pack detachably attached to said main  
6 body and having an input section integrally formed with  
7 said battery pack for inputting information (data); and  
8           a power supply terminal, adapted to be connected  
9 between said battery pack and said main body to supply  
10 electric power from said battery pack to said main body,  
11 for sending to said main body input signals relating  
12 to said information (data), which is input by said input  
13 section.

1           12. A mobile electronic apparatus according to  
2 claim 11, wherein:

3           said battery pack includes a signal synthesizing  
4 circuit for carrying the input signals, which are input  
5 by said input section, onto a power supply voltage to  
6 be supplied from said battery pack to said main body;  
7 and

8           said main body includes a signal separating circuit  
9 for separating and picking up said input signals carried

10 on the power supply voltage.

1        13. A mobile electronic apparatus according to  
2 claim 12, wherein said main body further includes a  
3 converting section for converting said input signals,  
4 which are separated and picked up by said signal  
5 separating circuit, into key-input-pattern signals.

1        14. A mobile electronic apparatus according to  
2 claim 11, wherein said input section has a keyboard.

1        15. A mobile electronic apparatus according to  
2 claim 12, wherein said input section has a keyboard.

1        16. A mobile electronic apparatus according to  
2 claim 13, wherein said input section has a keyboard.

1        17. A mobile electronic apparatus which is able  
2 to be carried by an authorized user for performing  
3 various electronic information processes, comprising:  
4            a main body;  
5            an attachment part detachably attached to said  
6 main body for performing a predetermined function when  
7 attached to said main body;  
8            an input section, formed integrally with said  
9 attachment part, for measuring biometric information  
10 of an object person to be verified and inputting the

11 measured biometric information;

12       an extracting section, which is formed integrally  
13 with said attachment part and operatively connected with  
14 said input section, for extracting biometric feature  
15 information from said biometric information, which is  
16 measured and input by said input section, for  
17 verification of the object person; and

18       an interface section, disposed between said main  
19 body and said attachment part, for sending said  
20 biometric feature information from said extracting  
21 section to said main body.

1       18. A mobile electronic apparatus which is able  
2 to be carried by an authorized user for performing  
3 various electronic information processes, comprising:  
4       a main body;  
5       an attachment part detachably attached to said  
6 main body for performing a predetermined function when  
7 attached to said main body;  
8       an input section, formed integrally with said  
9 attachment part, for measuring biometric information  
10 of an object person to be verified and inputting the  
11 measured biometric information;

12       an extracting section, formed integrally with said  
13 attachment part and operatively connected with said  
14 input section, for extracting biometric feature  
15 information from said biometric information, which is

16 measured and input by said input section, for  
17 verification of the object person;  
18       a comparing/verifying section, formed integrally  
19 with said attachment part and operatively connected with  
20 said extracting section, for verifying the object person  
21 by comparing said biometric feature information  
22 extracted by said extracting section with reference  
23 biometric feature information about the authorized user  
24 which information is previously obtained; and  
25       an interface section, disposed between said main  
26 body and said attachment part, for sending the result  
27 of verification by said comparing/verifying section to  
28 said main body.

1           19. A mobile electronic apparatus which is able  
2 to be carried by an authorized user for performing  
3 various electronic information processes, comprising:  
4       a main body;  
5       an attachment part detachably attached to said  
6 main body for performing a predetermined function when  
7 attached to said main body;  
8       an input section, formed integrally with said  
9 attachment part, for measuring biometric information  
10 of an object person to be verified and inputting the  
11 measured biometric information;  
12       an extracting section, formed integrally with said  
13 attachment part and operatively connected with said

14       input section, for extracting biometric feature  
15      information from said biometric information, which is  
16      measured and input by said input section, for  
17      verification of the object person;  
18            a comparing/verifying section, formed integrally  
19      with said attachment part and operatively connected with  
20      said extracting section, for verifying the object person  
21      by comparing said biometric feature information  
22      extracted by said extracting section with reference  
23      biometric feature information about the authorized user  
24      which information is previously obtained;  
25            a storing section, formed integrally with said  
26      attachment part, for storing personal data of the  
27      authorized person;  
28            a personal data read-out section, formed  
29      integrally with said attachment part and operatively  
30      connected with said storing section and said  
31      comparing/verifying section, for reading out said  
32      personal data from said storing section when said  
33      biometric feature information of the object person is  
34      identical with said reference biometric feature  
35      information of the authorized user as the result of  
36      verification by said comparing/verifying section; and  
37            an interface section, disposed between said main  
38      body and said attachment part, for sending to said main  
39      body said personal data, which is read out from said  
40      storing section by said personal data read-out section.

1           20. A mobile electronic apparatus which is able  
2 to be carried by an authorized user for performing  
3 various electronic information processes, comprising:  
4           a main body;  
5           a battery pack detachably attached to said main  
6 body for performing a predetermined function when  
7 attached to said main body;  
8           an input section, formed integrally with said  
9 battery pack, for measuring biometric information of  
10 an object person to be verified and inputting the  
11 measured biometric information;  
12          an extracting section, formed integrally with said  
13 battery pack and operatively connected with said input  
14 section, for extracting biometric feature information  
15 from said biometric information, which is measured and  
16 input by said input section, for verification of the  
17 object person;  
18          a comparing/verifying section, formed integrally  
19 with said battery pack and operatively connected with  
20 said extracting section, for verifying the object person  
21 by comparing said biometric feature information  
22 extracted by said extracting section with (previously  
23 registered) reference biometric feature information  
24 about the authorized user;  
25          a storing section, formed integrally with said  
26 battery pack, for storing personal data of the  
27 authorized person;

28           a personal data read-out section, formed  
29        integrally with said battery pack and operatively  
30        connected with said storing section and said  
31        comparing/verifying section, for reading out said  
32        personal data from said storing section when said  
33        biometric feature information of the object person is  
34        identical with said reference biometric feature  
35        information of the authorized user as the result of  
36        verification by said comparing/verifying section;

37           a signal synthesizing circuit, formed integrally  
38        with said battery pack and operatively connected  
39        therewith, for carrying said personal data, which is  
40        read out by said personal data read-out section, onto  
41        a supply power voltage from said battery pack to said  
42        main body as a voltage signal;

43           a signal separating circuit, mounted on said main  
44        body, for separating said voltage signal carried on said  
45        supply power voltage to pick up said personal data; and

46           a converting section, mounted on said main body,  
47        for converting said personal data, which is separated  
48        and picked up by said signal separating section, into  
49        a key-input-pattern signal.

1           21. A mobile electronic apparatus according to  
2        claim 18, further comprising a storage section, formed  
3        integrally with said attachment part, for storing said  
4        reference biometric feature information which is

5 previously obtained.

1        22. A mobile electronic apparatus according to  
2 claim 19, further comprising a storage section, formed  
3 integrally with said attachment part, for storing said  
4 reference biometric feature information which is  
5 previously obtained.

1        23. A mobile electronic apparatus according to  
2 claim 20, further comprising a storage section, formed  
3 integrally with said battery pack, for storing  
4 previously obtained said reference biometric feature  
5 information which is previously obtained.

1        24. A mobile electronic apparatus according to  
2 claim 18, further comprising:

3              a medium interface section adapted to be  
4 operatively connected with a portable memory medium  
5 which stores said reference biometric feature  
6 information previously obtained; and

7              a feature information read-out section,  
8 operatively connected with said medium interface  
9 section, for reading out said reference biometric  
10 feature information from said portable memory medium  
11 via said medium interface section;

12             said medium interface section and said feature  
13 information read-out section being formed integrally

14 with said attachment part.

1           25. A mobile electronic apparatus according to  
2 claim 19, further comprising:

3           a medium interface section adapted to be  
4 operatively connected with a portable memory medium  
5 which stores said reference biometric feature  
6 information previously obtained; and

7           a feature information read-out section,  
8 operatively connected with said medium interface  
9 section, for reading out said reference biometric  
10 feature information from said portable memory medium  
11 via said medium interface section;

12          said medium interface section and a feature  
13 information read-out section being formed integrally  
14 with said attachment part.

1           26. A mobile electronic apparatus according to  
2 claim 20, further comprising:

3           a medium interface section adapted to be  
4 operatively connected with a portable memory medium  
5 which stores said reference biometric feature  
6 information previously obtained; and

7           a feature information read-out section,  
8 operatively connected with said medium interface  
9 section, for reading out said reference biometric  
10 feature information from said portable memory medium

11 via said medium interface section;  
12       said medium interface section and a feature  
13 information read-out section being formed integrally  
14 with said battery pack.

1           27. A mobile electronic apparatus according to  
2 claim 24, wherein said portable memory medium is an IC  
3 card.

1           28. A mobile electronic apparatus according to  
2 claim 25, wherein said portable memory medium is an IC  
3 card.

1           29. A mobile electronic apparatus according to  
2 claim 26, wherein said portable memory medium is an IC  
3 card.

1           30. A mobile electronic apparatus according to  
2 claim 18, further comprising a communications section,  
3 formed integrally with said attachment part, for  
4 receiving said reference biometric feature information  
5 from an external apparatus.

1           31. A mobile electronic apparatus according to  
2 claim 19, further comprising a communications section,  
3 formed integrally with said attachment part, for  
4 receiving said reference biometric feature information

5 from an external apparatus.

1       32. A mobile electronic apparatus according to  
2 claim 20, further comprising a communications section,  
3 formed integrally with said battery pack, for receiving  
4 said reference biometric feature information from an  
5 external apparatus.

1       33. A mobile electronic apparatus according to  
2 claim 11, wherein said battery pack includes a battery  
3 which is detachable and replaceable.

1       34. A mobile electronic apparatus according to  
2 claim 12, wherein said battery pack includes a battery  
3 which is detachable and replaceable.

1       35. A mobile electronic apparatus according to  
2 claim 13, wherein said battery pack includes a battery  
3 which is detachable and replaceable.

1       36. A mobile electronic apparatus according to  
2 claim 14, wherein said battery pack includes a battery  
3 which is detachable and replaceable.

1       37. A mobile electronic apparatus according to  
2 claim 15, wherein said battery pack includes a battery  
3 which is detachable and replaceable.

1       38. A mobile electronic apparatus according to  
2 claim 16, wherein said battery pack includes a battery  
3 which is detachable and replaceable.

1       39. A mobile electronic apparatus according to  
2 claim 20, wherein said battery pack includes a battery  
3 which is detachable and replaceable.

1       40. A battery pack which is adapted to be  
2 detachably attached to a main body of a mobile electronic  
3 apparatus which is able to be carried by an authorized  
4 user for performing various electronic information  
5 processes, comprising:

6              a casing adapted to be attached to the main body  
7 of the mobile electronic apparatus;

8              a battery received in said casing;

9              an input/output section, formed integrally with  
10 said casing, for inputting/outputting information  
11 (data); and

12             an interface section, formed integrally with said  
13 casing, for transferring input/output signals relating  
14 to the last-named information (data) between said  
15 input/output section and said main body when said casing  
16 is attached to the main body.

1       41. A battery pack according to claim 40, wherein  
2 said interface section includes a signal synthesizing

3 circuit, formed integrally with said casing and  
4 operatively connected with said battery, for carrying  
5 the input signals, which are input by said input/output  
6 section, onto a power supply voltage to be supplied from  
7 said battery pack to said main body.

1           42. A battery pack which is adapted to be  
2 detachably attached to a main body of a mobile electronic  
3 apparatus which is able to be carried by an authorized  
4 user for performing various electronic information  
5 processes, comprising:

6           a casing adapted to be detachably attached to the  
7 main body of the mobile electronic apparatus;

8           a battery received in said casing;

9           an input section, formed integrally with said  
10 casing, for measuring biometric information of an object  
11 person to be verified and inputting the measured  
12 biometric information;

13           an extracting section, formed integrally with said  
14 casing and operatively connected with said input section,  
15 for extracting biometric feature information from said  
16 biometric information, which is measured and input by  
17 said input section, for verification of the object  
18 person; and

19           an interface section, formed integrally with said  
20 casing, for sending said biometric feature information  
21 to said main body when said casing is attached to the

22 main body.

1           43. A battery pack which is adapted to be  
2 detachably attached to a main body of a mobile electronic  
3 apparatus which is able to be carried by an authorized  
4 user for performing various electronic information  
5 processes, comprising:

6           a casing adapted to be detachably attached to the  
7 main body of the mobile electronic apparatus;

8           a battery received in said casing;

9           an input section, formed integrally with said  
10 casing, for measuring biometric information of an object  
11 person to be verified and inputting the measured  
12 biometric information;

13          an extracting section, formed integrally with said  
14 casing and operatively connected with said input section,  
15 for extracting biometric feature information from said  
16 biometric information, which is measured and input by  
17 said input section, for verification of the object  
18 person;

19          a comparing/verifying section, formed integrally  
20 with said casing and operatively connected with said  
21 extracting section, for verifying the object person by  
22 comparing said biometric feature information extracted  
23 by said extracting section with reference biometric  
24 feature information about the authorized user which  
25 information is previously obtained; and

26           an interface section, formed integrally with said  
27   casing, for sending the result of the verification by  
28   said comparing/verifying section to said main body when  
29   said casing is attached to the main body.

1           44. A battery pack which is adapted to be  
2   detachably attached to a main body of a mobile electronic  
3   apparatus which is able to be carried by an authorized  
4   user for performing various electronic information  
5   processes, comprising:

6           a casing adapted to be detachably attached to the  
7   main body of the mobile electronic apparatus;

8           a battery received in said casing;

9           an input section, formed integrally with said  
10   casing, for measuring biometric information of an object  
11   person to be verified and inputting the measured  
12   biometric information;

13           an extracting section, formed integrally with said  
14   casing and operatively connected with said input section,  
15   for extracting biometric feature information from said  
16   biometric information, which is measured and input by  
17   said input section, for verification of the object  
18   person;

19           a comparing/verifying section, formed integrally  
20   with said casing and operatively connected with said  
21   extracting section, for verifying the object person by  
22   comparing said biometric feature information extracted

23 by said extracting section with reference biometric  
24 feature information about the authorized user which  
25 information is previously obtained;

26 a storing section, formed integrally with said  
27 casing, for storing personal data of the authorized  
28 person;

29 a personal data read-out section, formed  
30 integrally with said casing and operatively connected  
31 with said storing section and said comparing/verifying  
32 section, for reading out said personal data from said  
33 storing section when said biometric feature information  
34 of the object person is identical with said reference  
35 biometric feature information of the authorized user  
36 as the result of verification by said  
37 comparing/verifying section; and

38 an interface section, formed integrally with said  
39 casing, for sending said personal data, which is read  
40 out from said storing section by said personal data  
41 read-out section, to said main body when said casing  
42 is attached to the main body.

1       45. A battery pack which is adapted to be  
2 detachably attached to a main body of a mobile electronic  
3 apparatus which is able to be carried by an authorized  
4 user for performing various electronic information  
5 processes, comprising:

6       a casing adapted to be detachably attached to the

7 main body of the mobile electronic apparatus;  
8       a battery received in said casing;  
9       an input section, formed integrally with said  
10 casing, for measuring biometric information of an object  
11 person to be verified and inputting the measured  
12 biometric information;  
13       an extracting section, formed integrally with said  
14 casing and operatively connected with said input section,  
15 for extracting biometric feature information from said  
16 biometric information, which is measured and input by  
17 said input section, for verification of the object  
18 person;  
19       a comparing/verifying section, formed integrally  
20 with said casing and operatively connected with said  
21 extracting section, for verifying the object person by  
22 comparing said biometric feature information extracted  
23 by said extracting section with reference biometric  
24 feature information about the authorized user which  
25 information is previously obtained;  
26       a storing section, formed integrally with said  
27 casing, for storing personal data of the authorized  
28 person;  
29       a personal data read-out section, formed  
30 integrally with said casing and operatively connected  
31 with said storing section and said comparing/verifying  
32 section, for reading out said personal data from said  
33 storing section when said biometric feature information

34 of the object person is identical with said reference  
35 biometric feature information of the authorized user  
36 as the result of verification by said  
37 comparing/verifying section; and

38           a signal synthesizing circuit, formed integrally  
39 with said casing and operatively connected with said  
40 battery and said personal data read-out section, for  
41 carrying said personal data, which is read out by said  
42 personal data read-out section, onto a supply power  
43 voltage to be supplied from said battery pack to said  
44 main body as a voltage signal.

1           46. A batter pack according to claim 40, wherein  
2        said battery is detachable and replaceable.

1           47. A batter pack according to claim 41, wherein  
2        said battery is detachable and replaceable.

1           48. A batter pack according to claim 42, wherein  
2        said battery is detachable and replaceable.

1           49. A batter pack according to claim 43, wherein  
2        said battery is detachable and replaceable.

1           50. A batter pack according to claim 44, wherein  
2        said battery is detachable and replaceable.

1           51. A batter pack according to claim 45, wherein  
2   said battery is detachable and replaceable.